THE

# HORTICULTURIST.

VOL. XXII.....NOVEMBER, 1867.....NO. CCLVII.

## THE AMERICAN POMOLOGICAL SOCIETY.—ITS ELEVENTH BIENNIAL SESSION.

On the 11th of September, 1867, the American Pomological Society commenced its eleventh biennial session in the city of St. Louis, Mo., with its long time-honored President, Marshall P. Wilder, in the chair, he having, in company with P. Barry, Esq., left the Paris Exposition and the gardens of France, and traveled by land and water some 4,500 miles for the sole purpose of once more meeting in pleasant association, amid a collection of Pomona's products, the fruit-growers of the United States. From no self-interest—from no hope of personal aggrandizement or pecuniary reward—the members of this Society gathered themselves together with the products of their orchards and vineyards from all parts of the States; some, as named above, even crossing the ocean, that they might compare and discuss the values of fruits and the modes of culture, diseases, etc., and spread the information broadcast and free over the land to aid the new beginner and assist him in producing the most palatable and healthful food designed by a wise Creator for man's support.

The history of this Society was fully given in the opening address of President Wilder, and may be briefly summed up as follows:

"It is the result of the union of two national organizations that were organized in 1848. These were the North American Pomological Convention and the National Congress of Fruit-Growers, which were united in 1850 as the American Pomological Congress, which subsequently became known as the American Pomological Society. The meetings of this Society under the different organizations have been held as follows:

"The North American Pomological Convention, Buffalo, September, 1848; American Congress of Fruit-Growers, New York, October, 1848.

"North American Pomological Convention, Syracuse, September, 1849; American Congress of Fruit-Growers, New York, October, 1849.

"American Pomological Congress, Cincinnati, October, 1850.

"American Pomological Congress, Philadelphia, September, 1852.

"And under the name of American Pomological Society, at Boston, in September, 1854; at Rochester, in September, 1856; at New York, in September, 1858; at

Rochester, September, 1860; at Boston, September, 1862; at Rochester, September, 1864; at St. Louis, September, 1867; and the next meeting appointed to be held at Philadelphia, in 1869."

Of the attendance in numbers at this meeting it may be said to have been good. Not as large as the enthusiastic lovers of the subject would wish, but such as to show that pomology is a knowledge yearly increasing, and fruit-growing rapidly becoming one of the most enticing, profitable, and agreeable pursuits of rural life.

Of the exhibition of fruits, it may be said to have been almost unprecedented—the number of plates being something over *twenty-four hundred;* and yet had Illinois and the great West generally been blessed with one of their usual productive fruit seasons, there is every reason to believe that the number of varieties, as well as samples, would have been more than doubled.

Two large halls were devoted to the use of the Society during its meeting, the expenses of which were defrayed by the Missouri State Horticultural Society. In the one hall the fruits were displayed, and in the other, the meetings from day to day were held for discussions of opinions. The morning of the first day's session was mostly occupied in appointment of committees and in listening to welcome addresses made in behalf of the Missouri and Illinois State Horticultural Societies, and of the Mississippi Valley Grape-Growers' Association, to which the President replied in his usual heartfelt manner. Every word of his address expressed his deep appreciation of the great subject which had thus brought together, from thousands of miles of distance, this band of men, who, however divided and unlike in other things, were one and inseparable in the advancement of fruit culture.

The afternoon was devoted to the delivery of the address of the President, which, as usual with all of Mr. Wilder's addresses, embodied a large amount of information, condensed, and indicative of thought and research in its production.

The columns of this journal will not admit of our making more than a single extract, which relates to the production of new varieties of fruits. He said:

"In no one of my previous addresses have I omitted to urge the importance of this branch of our science; and as Van Mons advised his friends, 'to sow, to sow again, to resow, to sow perpetually,' so now I repeat the words in which my views on this subject have heretofore been summed up; and as it was my first, so it shall be my continual and last advice—'Plant the most mature and perfect seeds of the most hardy, vigorous, and valuable varieties; and, as a shorter process, insuring more certain and happy results, cross or hybridize your best fruits.'

"The process of amelioration by sowing the seeds of successive generations, if founded in truth, is so long and tedious as scarcely to be worthy of trial. But we can not define the exact truth of the theory, for we can not estimate the disturbing influence of natural fertilization; and the impossibility of preventing this, where several varieties exist in the same ground, is apparent to all scientific cultivators. Under such circumstances, we could no more prevent an orchard of pears of different sorts from fertilization by the air and insects, than we could prevent a field of corn or a patch of melons, of different sorts, from mixing by the same process.

"While most of our fruits have been produced by this process of accidental crossing, the number of finer sorts have been remarkably few and far between. We would not, however, discourage the planting of seeds of our best fruit, trusting to natural fertilization; but to secure more rapid progress and better results, we must rely on the more certain and expeditious art of hybridization. By this means we may, in a few years, produce such novel and desirable combinations as ages might not give us by accidental fertilization, or

sowing seeds at random. In employing this agency we only imitate nature; for, though the artificial process is but of recent origin, natural hybridization must have existed from the creation, and undoubtedly gave the first hint to man of the power within his reach. Nor can we doubt that the knowledge of this process is confided to man, by the Almighty Creator, that it may be developed to its utmost extent, or that, in pursuing it, we are doing His will and working with Him. Here, 'the master-mold of Nature's heavenly hand' is placed within our own, so that the judicious and skillful operator may raise new and fine varieties of fruits with as much success as the farmer can produce improved animals by the crossing of his favorite herds."

Other portions of the address embrace the "Characteristics of a good tree and of a good fruit—the preservation and ripening of fruit — comments and statistics relative to grape culture—a general view of the work of the Society, together with its moral and social influence, and closing with a tribute of remembrance to those men of eminence in horticulture who, having ceased their labors here, await us at the gate of the garden of paradise."

The conclusion of the President's address was followed by enthusiastic applause, after which the arrival of the treasurer, Thos. P. James, Esq., was announced, and the Society listened to

THE TREASURER'S REPORT.

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| The detailed items show of receipts a total of . . . . . | $732 25 |
| Of expenditure . . . . . | 466 32 |
| Balance . . . . . | $265 93 |

Next followed the election of officers. Marshall P. Wilder was unanimously re-elected President. One Vice-President was elected for each State and Territory. Mr. Thomas P. James, of Philadelphia, Penn., was elected Treasurer; and Mr. F. R. Elliott, of Cleveland, Ohio, Secretary.

Mr. Thomas Meehan, editor of the *Gardener's Monthly*, Philadelphia, read a very able paper on diseases of the pear, which was followed by discussions of the subject. Mr. Meehan classes what is generally termed *fire blight* under two divisions—one as *insect blight* caused by the *Scolytus Pyri*, the other as *frozen sap blight*, both of which he regards as confined to comparatively young branches. He regards the destruction of the pear by *blight*, as generally found, to come from parasitic fungus, and advises the old course of cutting away and burning the diseased branch as the best remedy. Canker, leaf blight, cracking, knotting, and hardening of the fruit, severally receive a few words; while he places considerable stress on a disease under the name of *Debility*, which, he says, "is in most cases the result of cultivation, and by cultivation I mean any method of treating a plant which it would not get in a state of nature. Sometimes we intentionally debilitate a pear tree. We work on the quince stock, we summer prune, and we root prune so to debilitate the wood-producing principle as to induce inflorescence, on the well-known principle that nature always makes an effort to reproduce the plant in proportion to the danger of death. We know we do not get so many fruit as we should in the long run by allowing vigorous nature to take its course, but we sacrifice abundance to gain a little in time. But in our efforts to debilitate just enough to accomplish our aim, we often do too much, until debility becomes, for our purposes, a disease."

Mr. Meehan reiterates the recommendation he has published in his journal to grow pears in grass, and to avoid any mutilation of the roots—advice which conflicts with that of many very successful pear-growers. Some discussion ensued upon this subject, resulting, however, in no settled opinion.

Mr. Husman, of Hermann, Mo., had found that high cultivation, when followed by late and wet falls or a sudden frost, in-

duced pear blight, and that by a lower cultivation the wood ripened earlier, the tree was hardier, and the disease was averted. His neighbors, who applied a richer culture than he, were still afflicted with pear blight, while he was exempt.

Dr. Hull, of Alton, had concluded that to arrest the growth at a certain period would prevent the blight, and this plan he had tried with success. He pruned the roots about the 1st of March, cutting them off to the depth of two feet, and in two years after repeated the pruning, but in a wider circle. He pruned when the tree became of bearing size, and in the case of both pear and quince roots. Overcropping, however, had so much increased the productiveness, that fatal exhaustion sometimes followed.

SECOND DAY.

T. T. Lyon, of Plymouth, Mich., introduced a preamble and resolutions cogently setting forth the usefulness of forests, belts of timber, roadside trees, etc., in sheltering gardens and orchards, the disastrous inattention prevalent in this matter, and invoking legislation to secure the setting and safety of roadside trees, exempting belts of timber from taxation, etc.

P. Barry, of Rochester, requested the President to appoint a committee to prepare pomological rules for the guidance of the Society in testing the merits of new varieties of fruits. Mr. Barry also introduced resolutions of thanks to Mr. James Vick, of Rochester, the retiring Secretary, and to Thomas P. James, Esq., of Philadelphia, Treasurer, for their services.

M. L. Dunlap, Esq., was invited to address the meeting on the subject of transporting fruit. This being a subject of some considerable importance to a large number, we give the following as condensed from Mr. Dunlap's remarks:

"We have now a new condition of things. Railroads have opened up through the country, and the more delicate luxuries of the fruit and vegetable garden can be sent hundreds of miles. The time when the surrounding farms could supply the villages and cities with those luxuries is past. The great plains to the West, the more rigorous climate of the North, must be supplied with those luxuries. Nor is this all. The season of the several fruits must be extended. Taking the State of Illinois as an example: her fruit region proper runs through three hundred and fifty miles of latitude. Over this the season marches at the rate of about twelve miles a day.

"The strawberry begins to ripen at the south end of the State, May 5th. At that time the plants are not in bloom at Chicago, the great distributing point of the lake region, and are sent north to where the land yet lies locked in frost. The season of the strawberry is only some two weeks; but in one locality, by means of railroads, it is in the markets from May 5th to July 20th—two and a half months; other fruits have a similar history. To ship the strawberry eight hundred miles over railroads, we extend the season more than two months.

"The peach begins to ripen at the south part of the State July 1st, and by the march of the season continues until the October frosts close the orchards on the hither side of Lake Michigan.

"Southern Illinois peaches are sent to market two-thirds to three-fourths grown, and after sweltering in the cars, reach the market in a soft condition. On the other hand, the Michigan peaches are picked nearly ripe and fully matured, and they are offered in the Chicago market in a ripe condition, and command a high price, and please the taste of the people, who from such evidence suppose that late peaches are much the most valuable.

"Now, what we want is to send these fruits in a ripened condition to the consumer, and to do this we must seek the railroads to aid us. The Michigan peaches can not be sent out from Chicago, for, being ripe, they deteriorate by every mile of railway transit.

"We must have refrigerating cars, mounted on light steel springs, carrying not more than six tons, and running at nearly passenger speed, at reasonable charges for transportation.

"For packages we must discard the boxes and use baskets. Boxes are of no value to the consumer for other use than firewood, while the basket has a value in every household, and they can be returned again to the orchards at little cost.

"It was necessary to pack fruits so that they may not be injured by friction of the moving train, and peaches and grapes should be packed something like apples, by the use of a small screw. This can be done by using a cover to the basket. How much the pressure should be can only be settled by experience in the several varieties."

Dr. Hull believed only in picking and forwarding fruits when they were just about approaching maturity — not while still green. Fruits thus picked, and well packed, would ride six days without damage. Boxes should be discarded, and the railroad companies compelled to carry the vessels without upsetting them. He packed in oak leaves. He picked when the fruit would just and barely yield to pressure with the finger.

Mr. Knot shipped strawberries in pint boxes and quart boxes, and had entire success. Had sent them four hundred miles to New York.

Mr. Dunlap said that the shipping of fruits immediately on ice had proved a failure, but in the refrigerator car abundant ventilation prevented the ruinous moisture, and thus this mode of shipping was successful. He adverted to the waste of good vinegar apples in orchards, where the coddling moth had detached the apples.

Mr. Nelson, of Indiana, said he allowed no apples to be on the ground more than one day, and thus produced good vinegar worth not less than forty cents per gallon, and thus also got rid of the coddling moth. He kept a man busy picking up apples. He would sell no apples that would not bring a dollar a bushel, and of the rest he made vinegar.

RASPBERRIES.

The discussion on raspberries gave the autumn or so-called ever-bearing sorts a pretty general reputation as being of little value, while the Clark Raspberry was indorsed as valuable among the Antwerp class, and the Doolittle among the Black Caps. Very few varieties came under discussion, many well-known sorts not even being named.

BLACKBERRIES.

The Kittatinny among this class of fruit received high encomiums, nothing new being brought out relative to other varieties.

GOOSEBERRIES AND CURRANTS.

The Downing was the only one named among gooseberries, and of currants remarks were made mainly as to their value as a healthful fruit, to which the President added one of their profit, in that a neighbor of his had made from $800 to $1,000 per acre as an annual crop, and all grown under apple-trees.

STRAWBERRIES.

The discussion on Strawberries brought out some pretty severe remarks, and very contradictory in their tenor—showing more and more that this fruit is one of which varieties are specially suited to localities and soils rather than to any one mode of cultivation.

Mr. William Saunders, of the Agricultural Department, Washington, opened the Grape subject by a paper supporting his previous records relative to mildew, and its prevention by means of shelter of board copings, or of growing broad-leaved, strong kinds, and training them on the upper wires as a protection to the weaker sorts. He takes the ground that any grape will prove hardy the vine of which has been grown healthfully and free from mildew. The paper of Mr. Saunders was followed by one from A. Fendler, of St. Louis County, Mo., in which the ground is taken that the rot and other diseases of the vine

are caused more from a want of steady moisture at the roots than from any great or rapid radiation of heat, or from fungoid growth, the latter of which he regards as the result of putrescent matter in the vine furnishing food and the elements of its growth. This paper is well written, and as it advances comparatively new thoughts, should be read by every grape-grower. After the readings, discussion on the varieties of the

GRAPE

came in order, and the Iona being called up, received very little favor from any but Messrs. Griffith and Bateham, neither of whom had ever fruited it. Mr. Hoag, however, had fruited it at Lockport, N. Y., and spoke in its favor.

IVES' SEEDLING

obtained favor as a healthy vine, good cropper, productive for wine, and was by Mr. Meehan regarded as good as the Concord for table use. Mr. Husman had found it slow in coming into bearing.

NORTON'S VIRGINIA

was declared a good grower, and fruited well in Western white oak soils, or a mixture of clay and sand. Very productive, and ripening perfectly as far north as Erie, Pennsylvania.

Mr. Husman said he made six hundred gallons per acre of wine from this grape—had made as much as twelvé hundred; it bears at three years old, and the older it gets the better it becomes. The Arkansas, the Cynthiana, and the Virginia are the only three varieties that he had ever seen that never rotted. He had seen a whole vineyard killed, but it was from bad management. He said that some kinds of grapes can be raised on any soil we have, but it is useless to force certain kinds upon unfavorable soils. We should study our soils, as they do in Europe, and the man who is not willing to take that trouble had better stop grape-raising. He was in favor of each locality cultivating the varieties suited to it.

Mr. Foster, of Iowa, said a rich corn soil was not good for most varieties of grapes; but a wheat soil was favorable. The Concord would grow anywhere, but the Catawba and Diana were injured by rich soils.

The Creveling, Rogers' Nos. 3, 4, 9, and 19 were spoken of as doing well in almost all locations where tried; while No. 1 was regarded by Mr. Husman as valuable in Missouri for wine. No. 15 mildews at Hermann, but is very fine at Alton, in Illinois, Cleveland, Ohio, and several other sections.

Salem was reported on favorably by Messrs. Requia, Saunders, Spalding, and others, and unfavorably by Mr. Husman.

Maxatawney and Martha were both reported favorably upon by Mr. Husman, who said that, although the bunches of Martha were small, yet it makes a good wine.

The "Adirondack" was poor in Pittsburg, tender in St. Louis, a poor grower at Hermann and Hannibal; yet did exceedingly well at Alton; well at Lockport, N. Y.; well in the District of Columbia, and in sundry other localities.

The "Cynthiana" was highly praised by Mr. Husman. It makes a delicate wine of fine flavor, but not medicinal. The berry never rots at Hermann.

Dr. Spalding said that wine experts in Europe had preferred the Norton's Virginia over many of their own native vines, but had classed our Cynthiana still higher, and said it would "pay" us to export those kinds to Europe.

The accompanying representation of the Cynthiana was made from a cluster grown by Mr. George Husman, and is a fair representation of the grape.

In general appearance the bunch is like Norton's Virginia, perhaps not quite as compact, and with rather longer peduncles; and the inside of the berry is not as deep colored, so that the wine is lighter in appearance, of a more sprightly character, and possessing not quite as much body. Apparently the fruit will give more juice to the pound than Norton's Virginia, while

the vine is equally hardy and vigorous, with large foliage free from disease.

PEARS.

The "Clapp's Favorite" was commended by Mr. Barry, of New York. He had found them fine a week after picking. They were sound—not vinous nor buttery, but melting.

Mr. Smith, of New York, called this fruit first-rate. Mr. Elliott coincided.

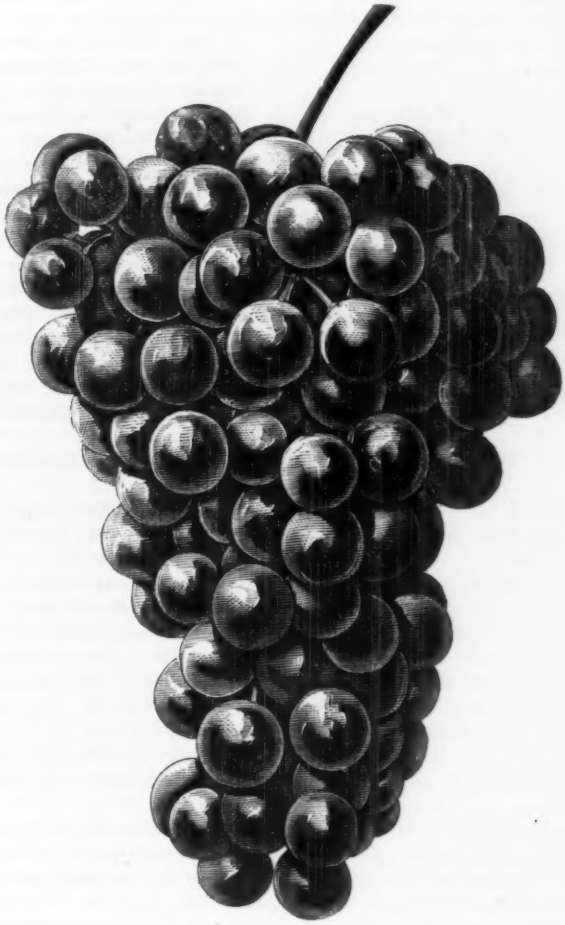

FIG. 171.—*Cynthiana.*

The President pronounced it the largest and handsomest early pear, productive, and lacking in nothing for a first-class pear. The habit of the tree is excellent. It bears ten days earlier than the Bartlett.

Mr. Parry, of New Jersey, said it ripens

in New Jersey two weeks earlier than the Bartlett, and is their best pear.

The "Edmunds" Mr. Barry called excellent at Rochester, New York. It was of a delicate straw color. Messrs. Wilder and Bronson also praised it.

The "Howell" was generally approved, and appeared successful everywhere.

The "*Superfin*" was commended on all hands as of first quality.

The "Sterling" was eulogized as handsome, sound, a good market fruit, but of moderate quality.

The "Beurre Diel" cracked badly in some places, though delicious in quality.

Dr. Warder said that his tree of this kind shed its foliage—which was worse than the cracking—and also cracked badly three years out of four.

The President said that in his orchards it uniformly shed its foliage and cracked.

Mr. Heaver, O., said that with him it never did either, but was an entire success!

In New York, Mr. Hoag found it generally shedding its leaves and the fruit cracking.

The "Beurre d'Anjou" won the praise of Messrs. Colman, Missouri, and Hoag and Bronson, New York.

President Wilder said it was, of course, his great favorite. It was known that he was its introducer, having imported it from Europe. His crop of it was one hundred bushels a year, and the marketmen engaged it of him beforehand. It bears abundantly; every pear is a good one, and will keep till January.

Several others joined in applauding this pear.

The "Sheldon" was commended by Messrs. Hooker, Bronson, and the President, and warmly praised as "tip-top" by Messrs. Trowbridge, Manning, and others.

The "Clairgeau" was much extolled on all hands for beauty, size, and flavor, and called early at Hermann.

The "Tyson" was held a success in the West, the tree being very good, fruit early, delicious, hangs well to the tree, and is abundant. The tree is often from seven to ten years coming into bearing, and slowness in this respect is a characteristic of it.

The "Onondaga" was fine in St. Louis County, in Ohio, in Connecticut, and especially at Pittsburg and Cincinnati. An excellent market pear.

The "Easter Beurre" was No. 1 at Alton, and with care succeeds generally. It failed in Massachusetts. It needs a long season.

The "Lawrence" was pronounced good at Cincinnati, in New York, at Alton, in New Jersey, and in Massachusetts.

The "Winter Nellis" was reported small but excellent, ripening both early and late, in November and in April.

The "Flemish Beauty" appeared fine in Iowa, Ohio, Wisconsin, and Northern Illinois, and at Syracuse, N. Y., was regarded as the best pear. In some places the fruit rots at the core and drops. In Southern Illinois it loses its foliage too soon, and fails. Best and most profitable in Northern Indiana.

Mr. Heaver thought these differences due to varieties in soil.

Members represented it as good in both sandy and clayey soils, and sometimes bad in clayey. The President said that atmospheric changes and influences, beyond control, greatly affect the pear.

The "Vicar of Winkfield" received a bad reputation. It was the worst pear Dr. Claggett knew of. Mr. Husman thought it as good as a turnip. Some one remembered that it had been called the very best for baking! The President smilingly esteemed it for cooking, and said it required careful culture.

The President said that he had to present upon this subject the consolidated wisdom of the Massachusetts Agricultural Club, which had been in existence for twenty years. That Club had unanimously agreed upon recommending the following list of best pears for cultivation in that State:

*Standards*—Bartlett, Seckel, Urbaniste, Merriam, Sheldon, Beurre d'Anjou.

*Second Series*—Brandywine, Doyenne, Boussock, Beurre Bosc, Onondaga, Howell, Lawrence.

*Third Series*—Belle Lucrative, Paradise d'Automne, Beurre Superfin, Marie Louise, Beurre Clargeau, Vicar of Winkfield.

Cherries received but a few remarks, bringing out no new points worthy of mention, while peaches and apples were, from want of time, entirely omitted. Mr. Nelson, of Indiana, however, introduced the following, which were adopted:

*Whereas* the time left to this Convention for the discussion of the merits of the apple is entirely inadequate to do justice to this great staple and most important of all fruits; therefore

*Resolved*, That growers of that fruit be requested to communicate with the General Fruit Committee in regard to the value and adaptation of different varieties to the different soils and climates, as well as the diseases of the fruit and the tree; and that said Committee may communicate the same to the Society at such time and in such manner as they shall deem expedient.

To this we now add that the Secretary at Cleveland, O., has made arrangements for the transmission of sample fruits for comparison, or to receive names to his address free of charge, and those who have new varieties, or those of which the names are unknown, are invited to forward him samples.

### OUR NATIVE WINES ABROAD.

During the session of the Society, Mr. Husman desired to hear from the President some account of his experience with our native wines during his recent visit abroad.

The President said that on his arrival at Paris from Washington he was elected one of the Commissioners. He found that the American wines had been passed by the committee. A single bottle of Catawba was taken as a sample of American wines. He endeavored to obtain a revision, but failed. He then moved for the appointment of a committee of the Universal Exhibition to report upon the growth of the vine, horticulture, and pomology. The committee was appointed, consisting of Americans, of which he was a member. The committee found that samples of American wines had been seriously injured by being placed where they were too warm.

In examining some of the wines from Hesse Darmstadt, the committee found them inferior to ours. The owners on tasting ours said, If you can make such wine as this, you have no need of ours.

He said the best American wines would compare favorably with those of the Rhine. We were taken to the famous Johannisburg, and were shown their best wine, and had never before tasted such excellent wines. These favorite wines are sold at one pound ten shillings per bottle to the Emperor of Russia, the Duke of Cambridge, and other nobles who could afford to pay for them. These wines would cost in this country about $15 per bottle. We can not raise such wines, but have some almost as good.

They examined the American wines, and the Europeans expressed their approbation of the Virginia Seedling and the Ives. A gentleman said these are the only wines that could have withstood the heat to which they were exposed. Persevere in raising your red wines—they can not be surpassed.

At Johannisburg we examined the soil, and found it apparently unfavorable for grape-raising. The whole surface is like a cake of burnt clay, and had to be broken up by a large two-pronged hoe. Only 60,000 bottles were raised on this spot.

Mr. Barry, who accompanied the President to Europe, was called to state his experience. He said the Johannisburg grape was a Reissling. The fine grapes are all raised on elevated ground, the level ground always producing inferior wine. The vineyards are renewed once in ten, fifteen, or twenty years. We saw fields from which the vines had been removed and broken up preparatory to renewing the vines.

## BEGONIA BOLIVENSIS.

We find this elegant variety of the Begonia figured and described in the London *Florist Magazine*, from which our illustration and description are taken.

Fig. 172.—*Begonia Bolivensis.*

"Few collectors have been more successful in adding to our stores of useful plants than Mr. Pearce, who has for so long been engaged in ransacking portions of South

America in the interests of Messrs. Veitch & Son, of Chelsea; his discoveries are such that they come within the reach of a large number of horticulturists, from their being adapted to green-house culture; and in this, one of the most recent of his introductions, we think we can hail another valuable addition to our new plants. We learn from the *Botanical Magazine*, in which it has just been figured, that it was discovered by Weddell in the Cordillera of Bolivia; but we suppose it was merely retained as a dried specimen in his herbarium, for it was regarded as quite a new plant when sent home by Mr. Pearce; and we know that when it was exhibited at the Paris International Show in May, it attracted more of the attention both of botanists and horticulturists than any plant there exhibited. It was afterward shown at the Royal Horticultural Society at Kensington, and was greatly admired. The root is tuberous, and the stem rises from it to the height of about two feet, although possibly under cultivation it may become larger; the flowers are very freely produced in groups of two and three, springing from the main stem, and hang down gracefully, displaying their brilliant scarlet color very well. There is a good deal of peculiarity in the structure of the plant differing from other Begonias, which makes it a plant of considerable interest to botanists. It often happens with our new introductions, however, that many of them are interesting both to the botanist and horticulturist; this Begonia is one of these, and as we believe it to be of very easy cultivation, we expect that it will be, ere long, very generally grown; at any rate, by all those who can appreciate this class of plants, it must be regarded as one of no common order of merit."

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Autumn Pruning.—The old advice to "prune when your knife is sharp," may in the simple cutting away of a stray twig be considered good, but its practice put upon trees or vines as a rule, would, at some seasons, be found injurious rather than beneficial. Cultivators disagree relative to the best time, but all, or nearly all, adopt some specific season for their general pruning. At the extreme North, pruning the apple or pear in late autumn may be found unadvisable, because of the greater exposure of wood next the last bud remaining; but in our practice, we have never found any injury to occur to the buds from pruning the pear and apple trees as soon as the leaves fall in autumn, and we are therefore disposed to advise the practice.

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Value of Water as an Ameliorating Agent.—Mr. Meehan is reported as saying, at the Illinois State Horticultural meeting, "that he thought large bodies of water had no material effect in aid of fruit growing. Mr. Saunders, of Washington, is also reported as expressing a similar view, or, in other words, "he did not see, from his observation on the shores of Lake Erie, that there was any advantage in this respect." We are inclined to think both these gentlemen have been over hasty in their remark, and that one season's residence on the shore of a large body of fresh water would convince them of its value as an ameliorating agent of temperature in aid of vegetation within reach of its influence.

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Herbaceous perennial plants should be transplanted this fall. Make the ground deep and rich with well-rotted compost; arrange the plants so that when they grow and flower next season, the tallest growers and darkest colors will be in the center or the back of the bed or border. After planting, mulch the surface with coarse straw manure.

## MINER PLUM.

This variety has excited considerable attention at the West, particularly in Wisconsin, where the fruit has been exhibited. Young trees were sent to us for trial last spring, by Geo. P. Delaplaine, Esq., of Madison, Wisconsin, which were planted out, and have all, without exception, made a vigorous growth. This fruit is an improved variety of the wild plum, and is deserving of notice at our hands. It can

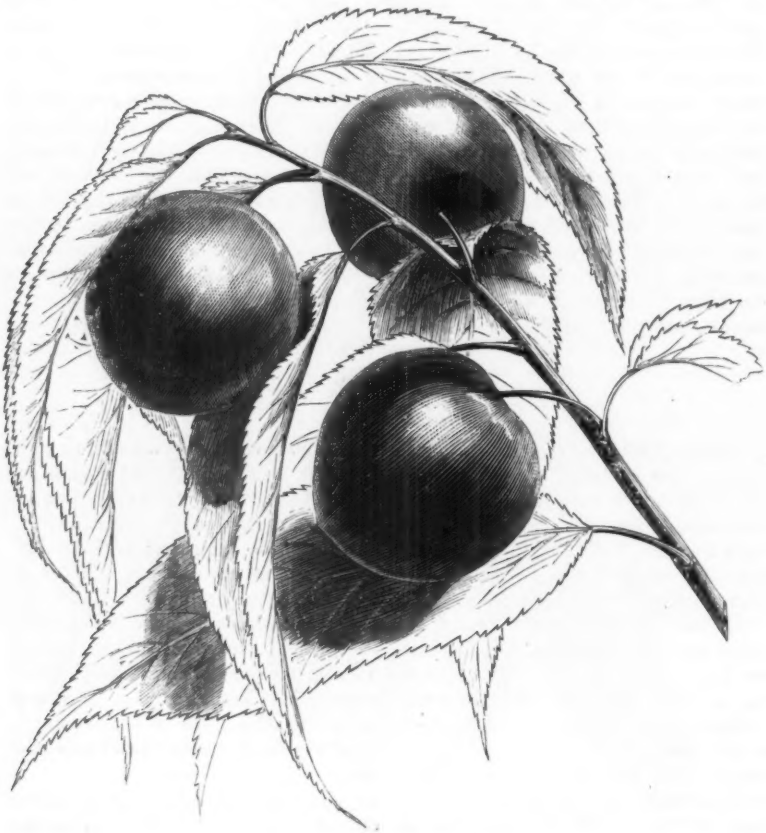

Fig. 173.—*Miner Plum.*

not, of course, take rank with our finer cultivated varieties, but in sections where these fail, it is well worthy of trial. Joel Barber, of Lancaster, Wisconsin, to whom we are indebted for specimens of the fruit, says of it, "that it has been cultivated in his vicinity for many years, and is the only satisfactory kind there grown, being of vigorous habit, free from disease, and perfectly hardy. The tree blossoms two weeks

later than other varieties, and ripens its fruit about October 1, and keeps for a considerable time, and is entirely exempt from the attacks of curculio." Fruit of medium size, oblong, tapering to a point. Color, rich dark purplish red, with a fine bloom; flesh rather soft when fully ripe, slightly adhering to the stone; stone oblong, pointed at each end. Flavor good; skin thick, somewhat astringent; leaves serrate; young shoots dark red. It originated with Mr. Miner, of Lancaster, and is no doubt a seedling from some of the wild varieties so numerous in that section.

## NEW JERSEY STATE AGRICULTURAL SOCIETY.

The Ninth Annual Exhibition of this Society was held October 8, 9, 10, and 11, on their own grounds at Waverly, midway between Newark and Elizabeth, on the line of the N. J. R.R. Within the past two years the State Society has been reorganized, and now commences its career with bright prospects ahead. The recent fair was an entire success, and the multitude of visitors that thronged the ground during the four days were well pleased with the management. The officers spared no pains to make the exhibition interesting and instructive.

Heretofore it might be appropriately termed the Moving Society, that was annually put under the "*hammer*" and knocked down to the highest bidders, who were remunerated for their investment by sharing the profits from the increased trade, in consequence of holding their annual fair in a certain locality.

The officers grew heartily tired of this method of conducting business; and by the personal efforts of a few gentlemen, a charter was granted by the Legislature, enabling the Society to purchase land for a permanent location. The same parties were instrumental in getting enough money subscribed to purchase the property. The location selected is admirably suited, and all who visited the ground during the exhibition were delighted in finding the premises so beautiful and easily accessible from all parts of the State. There are at present sixty-five acres inclosed with a neat board fence, and when completed, the Society will have over 200 acres—including a lake of eighty-five acres, which will add very much in giving freshness and variety to the scenery.

The Society will make arrangements during the coming year so that they can offer such inducements to manufacturers, mechanics, and agriculturists as will insure an extensive display of goods at all future exhibitions.

The recent fair has awakened a lively interest, and, even at this early date, persons are making preparations for the next fall's exhibition.

Although ground was not broken until six weeks before the opening day—still, by the personal and constant supervision of the officers, the work was so far complete as to satisfy exhibitors, and the arrangement of goods pleased the visitors. The President, Gen. N. N. Halstead, Secretaries, Colonel R. S. Swords and William M. Force, and Treasurer and General Superintendent, Benjamin Haines, deserve the thanks of the people for their efforts in making the exhibition the most interesting ever held in the State. "Long may they live!"

The articles for competition were arranged in five different departments—each of which had a superintendent, who had full control of all articles in his department, and who appointed judges.

There was a large display of agricultural implements, labor-saving machines, etc., etc. C. G. Crane & Co., of Newark, made the most extensive display of farm tools of every description. The show of cattle was not large; of Alderneys, however, there

were many choice and valuable animals on exhibition.

The second department (agricultural and horticultural) was one of the most interesting features on the ground, and attracted a great deal of attention. Although the season was unfavorable, a poor fruit year, still the tables were covered with a large display of very choice fruit, and mostly from amateurs.

Wm. R. Ward, of Newark, exhibited sixteen varieties of pears, which were very fine—also a branch of the Vicar of Winkfield, heavily laden with fruit.

John Crane, of Union, had on the tables twenty varieties of pears and about that number of apples; both collections were highly creditable. Wm. H. Goldsmith, of Waverly, showed some fine pears, grapes, and quinces. C. H. Earl, of Newark, exhibited twenty varieties of apples, quinces, etc. E. & J. C. Williams, of Montclair, had on exhibition a choice collection of pears, apples, quinces, and potatoes. The display of grapes from Rev. J. Knox was most creditable to the grower, and were awarded a special premium, diploma, and the thanks of the Society. A. J. Holcomb, of Flemington, N. J., exhibited twelve varieties of apples, that attracted a constant crowd of spectators, on account of the size and color of the fruit. The largest specimens of Duchesse d'Angouleme and Beurre Diel Pears on exhibition came from Thomas Grigg, Vineland.

The following account of the second department is from the New York *Times:*

FRUIT AND VEGETABLES.

The exhibition of all kinds of fruit and vegetables was held in a spacious tent, affording ample accommodations for a large exhibition. The most extensive display was made by P. T. Quinn, of Newark, superintendent of the floral tent. Although the past season, especially in New Jersey, has been exceedingly unfavorable for producing fine fruit, still, competent judges affirm that Mr. Quinn has succeeded in making the most creditable exhibition of fruit that was ever known in this State. The show of pears was really magnificent. Fine apples and choice grapes appear in liberal abundance. The majority of exhibitors are amateurs, not a professional nurseryman being represented among the apples or pears.

The display of potted plants and evergreens is very fine, and their artistic arrangement speaks well for the superintendent. The tent is beautifully ornamented, and is constantly filled with a crowd of visitors, who seem to enjoy themselves while admiring the productions of the Jersey soil. Mr. D. D. Buchanan has on exhibition forty different varieties of hardy evergreens tastefully arranged. Mr. Harvey has also a collection of evergreens, potted plants, and cut flowers, which are very fine. Mr. J. Hutchings, of Elizabeth, exhibited 100 pots of green-house plants, which deserve high credit.

I have seldom seen so large a display from amateur growers. There were a few Japan pears on the table, which attracted considerable attention from their peculiar form and appearance. Of vegetables there is an abundance; and judging from the large exhibition of potatoes, one would think that New Jersey is rivaling the productive soil of Ireland in that line. The most creditable exhibition of potatoes is made by Reisig & Hexamer, of Newcastle, N. Y., who displayed on separate dishes fifty varieties.

Rev. J. Knox, of Pittsburg, Penn., exhibited fifty varieties of grapes, and all of them are excellent specimens of their kind. The fruit was not taken from the vines until Monday morning, the 7th, and they were displayed at the New Jersey Fair on Wednesday morning in excellent condition. Such a large exhibition from one individual, and all in such excellent condition, reflected great credit on the producer. There are many other exhibitors in this department, but they are mostly amateur growers of fruit. Q.

## ROGERS' NO. 8 GRAPE.

BY F. R. ELLIOTT.

Among the many numbers and varieties of the Rogers Hybrid Grapes, my attention has this day (29th September) been called by Professor J. R. Kirtland to an examination of one under designation as No. 8. The vine growing in the Professor's grounds

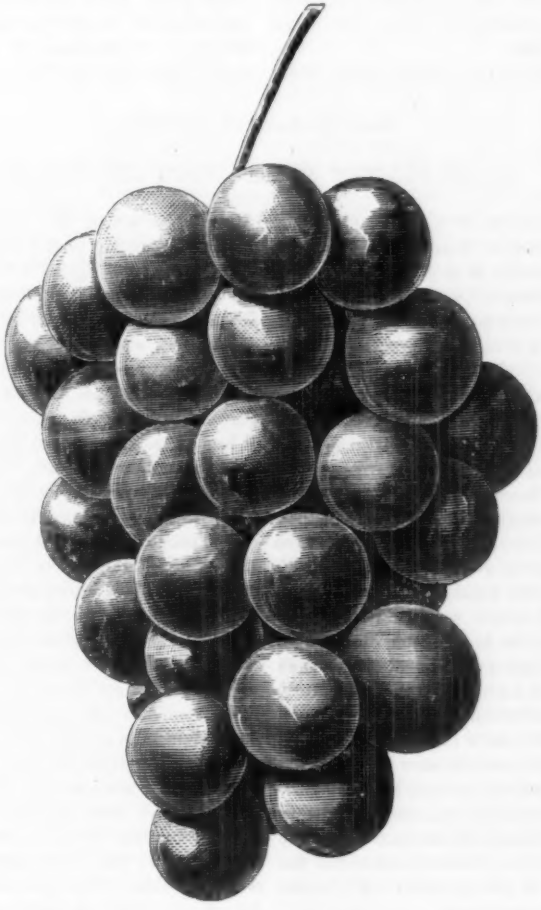

Fig. 174.—*Rogers' No. 8 Grape.*

is strong and vigorous, with broad, thick, and coarse foliage, which has so far never exhibited any signs of disease. The appearance of the grape is most attractive,

and the eating of it I think could not but convince any one of the truth of its being a hybrid, and that Black Hamburgh was one of its parents. The superiority of this grape, as now shown me, taken in connection with the fact that it has received little or no notice, has induced me to make the accompanying drawing and description, that other growers of it may note, compare, and write.

Bunch large, the berries rather loose, with long, stout peduncles. Berries large, oblong rounded, some nearly or quite round. Color, unless fully ripe, an amber red, but the fully matured berries a deep coppery red. Bloom, light gray or whitish. Flesh, sweet, juicy, with but a slight tinge of foxiness, and almost entirely free of pulp. Skin, about the same thickness as Catawba, but has little or none of the astringency or harshness of that variety. Seeds large, long oval, light brown.

## GRAPE CULTURE AT THE PARIS EXPOSITION.

In a recent number of the *Journal d'Agriculture Pratique*, M. Joigneaux has given elaborate reports in regard to grape culture as represented in the Paris "Exposition." His last report is exceedingly interesting, and a *résumé* of it will no doubt interest many of our readers. The report relates entirely to various modes of culture and training, and M. Joigneaux regrets that the efforts of those who have been brought forward most prominently, have been directed to an increase in the quantity rather than an improvement of the quality of the products. This, as he says, is very well so far as it goes, but it is certainly not enough if we take into consideration those first-class stocks (*cepages*) which have made the reputation of the best French wines.

We may here remark that the French have adopted a plan which would be well worthy the attention of some of our grape-growers' associations in this country. At Billancourt, a short distance from Paris, a plot of ground was set apart for the purpose of practically illustrating the various systems of training and pruning. Here the advocates of the different systems had the opportunity of giving actual embodiment to their various methods.

In alluding to the various processes brought forward at the Paris Exhibition, M. Joigneaux mentions particularly the process of M. Hudelot for multiplying the vines by means of what he (Hudelot) is pleased to call "graines d'Hudelot," which being interpreted signifieth Hudelot's seeds. It will no doubt surprise our readers to learn that these "Hudelot's" seeds are nothing but our single eyes! This process, as M. Joigneaux tells us, and as we have seen ourselves, has been periodically brought forward in France for some years, although it is as old as Speechly (1777), and has been fully described in nearly every work on grape culture written in the English language during the past fifty years.

The peculiarity of M. Hudelot's plan consists in *sowing* the eyes in the open ground. "Some years ago a great deal of noise was made about this process, and the inventor announced that he sowed the vine broadcast (*à la volée*), or in drills, just as we sow the seeds of wheat or carrots."

M. Hudelot's plan was tried at Billancourt, but failed, "probably because the eyes were buried too deeply."

We wonder what our French friends will say when we state that we grow vine plants from eyes by the million, and that in this country whole vineyards are planted out with vines raised in this way. But we generally raise the plants under glass with the aid of bottom heat, a method which undoubtedly possesses many advantages in addition to the mere facility with which the plants can be rooted.

M. Joigneaux is, however, of the opinion, that it is not so much by his "*mode de bouturage*," as by his mode of culture, that M. Hudelot recommends himself. His process depends upon the principles adopted by M. Jules Guyot and M. Hooibrenk. It is essentially a renewal system; but unlike the plan of M. Guyot, where the long cane is placed horizontally, or that of M. Hooïbrenk, where it is inclined at an angle of 112½ degrees, it consists in placing the stocks in line and uniting them so that the long cane of one will be wound (*enroulé*) round the stem (*tige*) of the other. M. Joigneaux thinks that this plan will do with stout and vigorous stocks, but will fail with weak vines.

M. Joigneaux next passes in review the system of M. Trouillet, which consists chiefly in dispensing with stakes and trellises and making the vine support itself, the canes being annually spurred back to near the head, and the shoots trained "*en gobelet*" (goblet fashion), but condemns it on the ground that it involves too much labor.

The method advocated by Dr. Guyot seems to grow in favor, and is gradually extending its range. Dr. Guyot has published three very elaborate reports upon the state of viticulture in France. We have read them with great pleasure, and they will well repay perusal by all interested in grape growing. Since his system was published, many imitators have sprung up, and we believe that in this country we have greatly "improved" upon his plan. Upon this point, however, it may not be amiss to quote M. Joigneaux:

"They have sought by slight variations to distinguish their systems from his. One advocates a perfect 'horizontality;' another a bow, and a third an angle of 112½ degrees, while still another causes the cane to describe a spiral, so as to moderate the circulation of the sap and direct it to the production of fruit. All these details have in our eyes very little importance, the distinguishing feature being the mode of pruning, which is substantially the same in the systems of all these pretended innovators."

What all, without any exception, desire, is large returns, and we regret that, in order to obtain this, they too often injure the quality of the fruit. They do not consider sufficiently that large returns necessitate copious supplies of food for the plants; that abundant vintages require gross manures, and that thereby the wine loses more than is gained.

That which is most novel, most original, and (shall we say it?) most eccentric in the viticultural exhibition of Billancourt certainly is the system of Dr. Gustave Krautz, of Perl (Prussia). His system is in extensive use in Perl, and appears to gain ground. Already it has imitators, and on this account demands attention. We can readily believe that it will yield large returns; but then it must be very exhausting, and it certainly is not very elegant, if we may judge by the specimens exhibited at Billancourt.

"Fancy a sort of box open on one side and having this open side placed downward. Through a hole in the upper side of this box passes a stout vine, while the four corners of the box carry iron supports which sustain a double pitch roof of sheet iron. Under this roof and on the box in question is arranged a stout frame, which serves to carry an iron wire on which a number of branches are plaited and curved in every possible direction. As we are not familiar with the explanations which Dr. Krautz has given of his process, we are reduced to the supposition, that the wooden box from which the vine proceeds is designed to keep the foot of the vine cool, and prevent the radiation of the terrestrial heat. As for the roof, it is clear that it is intended to protect the vine from late spring frosts."

M. Vignial shows a method of training in fan-shape, which presents a fine appearance; but, like the system of Dr. Krautz, it is suited only to strong soils.

M. Joigneaux alludes to many other systems which were illustrated on the grounds at Billancourt, but as no description is furnished, we note merely that of M. Marcon.

In this case the vigor of the vine is developed to the utmost possible extent; and to enable M. Marcon to attain this end, he has had abundant elbow-room given to him, the plants being placed at a distance of 2m. 25 apart—7¼ feet. What would M. Joigneaux think of the "elbow-room" (*coudées franches*) demanded by some of our American growers, who place their vines 16 feet apart?

After a careful consideration of the whole subject, M. Joigneaux comes to the same conclusion that has long impressed itself upon our best grape-growers, which is, that in order to obtain the best wine grapes, the stocks must be confined within *moderate* limits; gross manures must be avoided, and every effort must be made to hasten the period of ripening of the fruit.

## THE FIRST AMERICAN WORK ON GRAPE CULTURE.

A FEW evenings ago I stepped into the study of a friend whom I shall name Biblos, and who is known among his friends as having the finest library of agricultural works in this part of the country. I felt anxious to learn a little about the early American books on Gardening, and felt pretty certain of obtaining from B. the information of which I was in search. On asking him which was the earliest American work on the Vine, he replied: "Really I can not tell without looking. It is a pity that we have no good work on the bibliography of American science and art. Theology and metaphysics have been pretty well worked up by Trüber, but for the rest we must depend upon the booksellers' circulars and Roorbach's work. Pass me that volume by Fuller, lying on the table. I believe he gives a list. [He then examined the book.] He gives Adlum's, published 1823, as the first work. My copy was published in 1828, but is a second edition. Let us see what he says about the *History* of grape culture. [Looks.] Of this he says nothing. Pass Husman's work, 'Grapes and Wine.' Here we have a very good History. From this it appears that grape culture has been carried on in this country for more than two hundred years. It will be strange, then, if we do not find some work on grape culture prior to 1823. Let me look at 'MacMahon's Gardening.' It was published in 1806, and is the oldest American work on Gardening that I possess. My copy has seen some strange adventures, having been brought from the South during the late war. This work is not mentioned by Downing in his list of works prefixed to his 'Fruits and Fruit Trees.' The oldest work there mentioned is Coxe's, 1817, and the next is Prince's, whose treatise on Horticulture—an admirable little work, by the way—was issued about the time Adlum published his book."

*L.* Well, really this is annoying. Is there no nearly perfect list of American books on Horticulture?

*B.* I believe not. Phin, in his book, says that he was asked to make out such a list for vine culture, but he declined, as being incompetent. He gives a list, however. Let us look at it. [Picks up Phin's book and examines it.] Well, this is really a strange list. More remarkable, perhaps, for its omissions than for its contents. He seems to have included only those works which he had consulted. This list, like every other, may be useful; but it seems to me that if he had left out the Chemistries of Gmelin and Graham, and had given us a list of all the works of which he could have found any account, his labors would have been of more value. If he had wished

to distinguish those he had consulted, he might have prefixed an asterisk to each. I have heard that he was at one time librarian to a large institution, and this list evidently shows a knowledge of bibliography, which might have done us good service if he had chosen to use it. His forte seems to lie in hunting up knowledge in out-of-the-way places. Who would have thought of looking for a translation of Chaptal in the *Philosophical Magazine?* I wonder some of our publishers do not extract and republish it.

*L.* Allow me to look at the book when you get through. [Takes it.] Well, this is quite a long list, though it seems to me that many of the books mentioned relate to anything but vine culture. Still, we may find in it some clue to our object. Let me look down the list. Here is a work —Johnson, S. W.—"The Culture of the Vine." New Brunswick, N. J., 1806. Have you it?

*B.* No, I have not. Never heard of it. [Searches his catalogues.] I can not find it in any catalogue in my possession. I am inclined to believe that must be the first work exclusively devoted to the Vine. It is seventeen years prior to Adlum—the earliest work mentioned by Fuller.

*L.* By the way, B., have you a book of Busby's with the same title as Husman's recent work, "Grapes and Wine?"

*B.* I have not. I am inclined to believe that is a mistake of Fuller's. I have a copy of "Busby's "Visit to the Vineyards of France and Spain," but I can not find a record of any other work of his; still, it would not be safe to say there is none.

*L.* In looking over Husman's work, I see that he alludes to an article by Mr. Antel on the "Culture of the Vine," published in the "American Philosophical Transactions," Vol. I. Have you got that work?

*B.* Yes, I have—nearly a complete set of it. I see Phin has that in his list. Here it is. Mine is the second edition, published, like that referred to by Phin, in 1789. A note on the fly-leaf of my copy says that the first edition was published in 1771. The Essay itself is dated 1769. I am inclined to think that here we have the first practical directions for cultivating the vine ever published in America.

*L.* Yes; but you can not call this a work on the Vine! This is the "American Philosophical Transactions!"

*B.* That shows, friend Liber, that you know more about vine culture than you do of bibliography. I suspect you are one of those who would place the "Diversions of Purley" on the same shelf with your book of Games, and Edgeworth's "Essay on Irish Bulls" among your books on stock-breeding. If you do not look beyond mere titles, you will be found some day ordering a copy of "Ruskin on the Construction of Sheepfolds" with a view to getting up for some of our agricultural papers an article on that essential department of sheep husbandry; or Ryle's "Wheat and Chaff," for the purpose of comparing it with Klippart's work under a similar title. Still, as you say, it is not a work devoted exclusively to the Vine, or even to fruit culture. Nevertheless it forms the first complete American treatise on the Vine.

*L.* Perhaps you are right; but Fuller includes in his list only those works relating wholly to the Vine.

*B.* That was his intention; and yet if he had strictly carried that out, he would have excluded Haraszthy's work, which treats of silk and sorghum as well as grape culture. As a list of works whose *titles* speak only of the Vine, his catalogue is very well; but you see that the rule which he has adopted leads him to exclude that work, which is the acknowledged standard in regard to the descriptions of the different varieties of the Grape—a work which is so characterized by the highest of all authority, the American Pomological Society. I refer, of course, to Downing's "Fruits and Fruit Trees."

*L.* Well, B., I am afraid you have worked too much among books for me to have any chance with you in an argument

on bibliographical subjects. Let us set down Antill's Essay as the first. I would like to examine it.

*B.* All right; but let us chat now, and you can take the book home with you and examine it at your leisure.

I did so, and on my way I thought over the chat I had had with B.; and it occurred to me that many of the readers of the HORTICULTURIST would have been interested in that conversation, so the question came up, Then why not report it? And I could not find an answer to that "why not;" so here is the report. But I wonder what B. will say when his old friend the HORTICULTURIST comes to him with that talk of ours all set down in its pages.

The Essay fills eighty-five quarto pages, and tells us how to care for vines from the cutting to the vintage. The author has sanguine hopes of success, for he says: "If the vineyard do not succeed, the fault is in the man, and not in the vine." And after this quaint fashion he holds out the most endearing encouragement to his readers. The apprehension of being at a certain expense, without the experience of a certain return, will hinder many from making the attempt; but let not these thoughts trouble you, nor make you afraid. You have a friend for your guide who will not deceive you nor mislead you; one who by experience knows that the thing is practicable here, where the country is open and clear; one who looks upon you all as his children, and with the fondness of an affectionate father will take you by the hand, and lead you with plainness and honest simplicity through all the different operations, till you become master of the whole, and then with pleasure and delight will look and see you reap the profits, to your full satisfaction, of all your expense and labor."

In these days, when we have $100 prizes offered for the best vine, and when it requires the combined wisdom of the ablest members of our Pomological societies to make out a list of vines suitable for a given section of country, it is interesting to read the names of those Mr. Antill recommends. The list is long, so we content ourselves with samples.

For New Hampshire, Massachusetts, Rhode Island, and Connecticut, the Black Hamburgh, the Miller Grape, etc. For Pennsylvania and "the three lower counties," Chasselas, Blanc, Red Fronteniac, etc. Maryland, Virginia, and North Carolina require White Fronteniac, White Oporto, etc.

It would seem from his Essay that there was not a single American variety cultivated by the better class of fruit-growers.

"The reason for my being silent about vines that are natives of America, is that I know but little of them, having but just entered upon a trial of them, when my ill state of health forbade me to proceed. From what little observation I have been able to make, I look upon them to be much more untractable than those of Europe; they will undergo a hard struggle indeed before they will submit to a low and humble state—a state of abject slavery. They are very hardy, and will stand a frame, for they brave the severest storms and winter blasts; they shrink not at snow, ice, hail, or rain; the wine they will make, I imagine from the austerity of their taste, will be strong and masculine." He recommends deep culture and thorough manuring, but objects to the placing of any manure in the hole in which the vines are set, claiming that to do so is to set the vines in flower-pots.

His directions for pruning are full and excellent. He advises to save all the roots, and not to dig up over twenty vines at once, so that they may never be exposed to the air for too long a time. At that time, however, vines were not procured from vineyards hundreds of miles distant, but were grown on the owner's premises.

He objects to root pruning at the time of planting, except in so far as the surface roots, or *day roots* as he calls them, are concerned. On this point he agrees with

the Germans, and advises their removal. He recommends mulching, and describes training both upon stakes and trellises, which he calls espaliers, but prefers the stakes on account of the facility which they give for winter protection. He allows a light crop to be taken in the fourth year, but none prior to that. In the fifth year he allows a full vintage, and dwells at great length on the danger of fruiting the vine when too young. He objects to trellis training, on the ground that it is difficult, and fit only for rich men who can afford to employ experienced vignerons. It would seem that there were stealers of fruit in those days as well as now; but instead of taking the method advocated by friend Greeley, and securing enough grapes for all so as to remove the temptation to steal, he directs us "to guard against such attempts by a close high fence without and a smart watchful dog within, and especially by the vigneron appearing now and then with a gun in his hand, walking about his vineyard in an evening, particularly when there are idle people without; this will effectually prevent any attempts, when they see what they apprehend to be so very dangerous."

He shows no mercy to the bird thieves, and directs us to shoot the robins and catbirds, and destroy their nests. But at the same time he offers a remedy which is perhaps worth quoting.

"If poles be stuck up here and here, near that quarter where the birds harbor and have their haunt, and small branches, with three or four twigs on them, be fastened to the top of the pole, and the twigs well daubed over with bird-lime, the birds will perch upon them, and will be so entangled by the bird-lime, that if they are suffered to continue upon them some time, if they then get away, they will hardly return again that season; and as if they communicate their grievances and their dangers, few or none of the same species will come into the vineyard that season."

He condemns, in the strongest terms, the growing of crops between the rows, and directs those who can not employ horse power to use the two-pronged fork, of which he gives a cut, calling it a *sarkling* iron. On the whole, this curious old work contains much that is to be found in our modern treatises, and yet it was written before Speechly had given his work to the public, or Switzer had described his "New Method."

His hopes were high, and from statements in his essay we should say that at first he attained a moderate degree of success. We presume, however, that his vineyard was ultimately a failure, and that the only record left exists in what my friend B. assures me may be called "the first American work on grape culture."

LIBER.

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GRAPEVINES should be pruned this month, or as soon as the leaves drop, and before severe cold sets in. The length of the canes, number of buds, etc., to each plant, must be regulated more by a good common-sense judgment of the strength of the vine and the variety, than by any set rule laid down in books. The Delaware, Mottled, and other short-jointed kinds, we have sometimes pruned to ten or twelve buds on a cane, and then when the spring came have rubbed out every other bud; but we can hardly advise the practice. The Clinton, Nortons, and others of their class, we have grown our best fruit upon by leaving long canes. Concord and Hartford Prolific have also given fine fruit by this manner of pruning. After pruning, leave the canes untied.

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RHODODENDRONS, mahonias, and other partially hardy broad-leaved evergreens, should have the earth around them covered pretty deep with leaves.

## PROPAGATING PLANTS BY BUDDING.

BY A. S. FULLER.

Budding is the art of taking a bud with a small portion of the bark adjoining from one plant and inserting it in that of another, or into some other part of the same plant from which it was taken.

The physiological principles which govern the operation are, that there must exist an affinity between the plant from which the bud is taken and the one upon which it is to be placed, and the nearer the relationship the more readily will it unite and permanent the union.

The science of botany assists us in determining this relationship, but it is only by observation and practical experience that the affinity between the various plants has been fully determined.

For instance, it is doubtful whether by the aid of the science of botany alone, we could determine the reason why the pear, which so closely resembles the apple in all its parts, and botanically so nearly related, should in its wood have so little affinity.

In budding, it is very important that the bark of the stock should part readily from the wood; and to secure this, it is necessary that the operation should be performed when the flow of sap is abundant, because if the bud is inserted at this time it immediately finds the nourishment which it requires for its support.

The sap which has been assimilated by the leaves descends mainly through the inner bark, and on the external surface of the wood of the stock; it therefore comes in contact with the inside of the bark adhering to the bud, and is transmitted to the bud itself, which thus becomes attached to the plant upon which it is placed; or, in other words, a union is formed between the two.

For budding are necessary a small knife for preparing the buds for insertion, and opening the bark of the stock to admit them, and a quantity of some material to tie around the stock, so as to hold the bud in its place. Budding-knives are made after various patterns, those commonly used are represented in the accompanying figures. Fig. 175 has an ivory handle, made very thin at the end, and is used to raise the bark of the stock. Fig. 176 is a small

Fig. 175.

Fig. 176.

pocket-knife with a thin blade, round at the end. The cutting portion extends about one third around the end of the blade, and about two thirds of its length, leaving the lower part dull. I consider this form of knife far preferable to the first, as in using it there is no loss of time in reversing it whenever a bud is inserted, as is necessary when using one in the form of fig. 175.

But it is immaterial what form of knife is used, provided it has a keen edge, and is dexterously used.

FIG. 177.

The material commonly used for tying in the bud is called bass, and is procured at almost any seed store, or it can be obtained in the form of bass-mats; but when it can not be had in either of these forms, and basswood trees, also called Linden (Tilia of botanists), are at hand, the bark may be stripped from them in the spring as soon as it will part freely from the wood. Immerse it in water from two to four weeks (varying according to the temperature of the water), and the bark will part with its mucilaginous matter, after which it may be divided into thin layers resembling fine silk, being very soft and pliable. The inner bark ot other trees is sometimes used, also woolen yarn, strips of thin cotton cloth, cotton wicking, etc.; but the bass is more extensively used than any other material for this purpose.

In selecting buds, the young shoots of the present season's growth are usually preferred, and these should be taken from the most healthy and thriving branches. The leaves should be immediately removed, leaving a portion of the leaf-stalk attached, as seen in fig. 177. If the leaves have fallen from the branch, it is usually thought to be too ripe for use, but in some instances such buds may be used with success. If there are any soft, immature buds on the upper portion of the shoot, or any undeveloped ones on the lower end, they should be rejected.

To become an expert in budding, the following formula may be observed: Take the branch in the left hand, with the small end toward your body or partly under the left arm; insert the knife-blade a half inch below the bud, cutting through the bark and a little into the wood, passing it under the bud, and bring it out above it, taking off the bud with the bark and a thin slice of wood attached, as at *c*, fig. 177. Then

FIG. 178.

FIG. 179.

(if using budding knife fig. 176) let the forefinger clasp the lower part of the blade; make the horizontal incision in the stock

first, and from this an incision down the stock about an inch long, being careful not to cut too deep; lift up the edge of the bark by passing the back of the blade up to the horizontal incision without removing

FIG. 180.

FIG. 181.

it. Lift the bark on the other side in the same manner—the two incisions making a wound on the stock resembling the letter T, or as shown in fig. 178.

If the bark parts freely from the wood, it is not necessary to pass the knife-blade under the bark the entire length of the incision, but only enough to allow the point of the bud to enter the incision; a slight pressure forces it down to its place —see fig. 179.

The expert budder holds the bud between the thumb and forefinger of his left hand while making the incision in the stock; and as the knife leaves it, he catches the lower joint of the bark attached to the bud under the bark of the stock before it falls back into place, and thrusts it down into position. If the upper end of the bark of the bud does not pass completely under the bark of the stock, it must be cut across so as to join the incision in the stock. If the bud was removed after being fitted as described above, it would appear as in fig. 180.

When the bud is fitted to the stock, wind the bass (or other aterial used) around the stock, and tie it, covering the entire incision, leaving only the eye uncovered, as shown in fig. 181. The ligatures should be removed or loosened as soon as the bud has firmly united with the stock, which will usually be in ten to fifteen days, if at all. The horizontal incision in the stock is sometimes made below the perpendicular one, as at fig. 182. This allows more of the downward flow of sap to reach the bud than when cut across above it; but as it often proves detrimental, and not so convenient, this mode is rarely practiced, except upon plants in which the peculiar condition of the sap at the time of budding seems to require it.

When a bud is taken from the shoot, as represented in fig. 177, *c*, there is a small piece of wood remaining under the eye, which, in budding some kinds of plants, it may be desirable to remove, although it is an almost universal practice in this country to let this wood remain, and doubtless in a majority of cases, and with most kinds of plants, it is best to do so; but there are instances when a more permanent union would be secured if it was removed. When the wood is to be taken out, branches must be used from which the bark will

FIG. 182.

readily peel from the wood without tearing or breaking the fibers. Hold the branch in the left hand with the smaller end toward you; insert the knife-blade about one inch below the bud; cut a little

deeper than you would if the wood was to be left in; pass the knife above the bud about an inch, then cut across through the

FIG. 183.

bark only, about half an inch above the bud—see fig. 183; then, with your finger and thumb, lift up the bark, at the same time press it gently forward, and you will take off the bark and bud (*a*), usually without injuring it in the least, and leaving the piece of wood (*b*) adhering to the branch. Examine the bud after it has been removed, for the purpose of ascertaining whether the *chit*, as it is called, has been broken off even with the inside surface of the bark, or whether it has broken within the bud, leaving a cavity; if the latter, there is danger that although the bark around the bud will unite with the stock, the bud itself will fail to grow unless the flow of sap on the stock is sufficiently abundant to fill the cavity soon after the bud is inserted.

FIG. 184.

Another method of taking out the wood from the bud is to cut around it, as shown in fig. 184, then, with the thumb, press it sideways, and slip it off. This mode is used when the branch is large and the bark too thick to work readily in the former method. A thin piece of ivory, bone, or a goose-quill is sometimes used for separating the wood from the bud; but the method I have illustrated is the safest, and may be used in almost every instance where it is necessary to remove the wood.

SEEDLING PEACH.—Mr. Thomas Bushnell, of Hayesville, O., sends me a sample of a yellow peach, which he regards as a seedling. On examining it, I can see a close resemblance to Yellow Admirable or Orange—once pretty generally cultivated, and a sort that bears well, and with a habit almost certain of reproducing itself, which accords with the account sent of this seedling. F. R. E.

# EDITOR'S TABLE.

To Contributors and Others.—Address all Communications, for the Editorial and Publishing Departments, to F. W. Woodward, 37 Park Row, New York.

Mrs. Pince's Black Muscat Grape has been the subject of anxious inquiry among grape-growers, and the result is that the whole of its history is now before the public. That it should excite curiosity somewhat beyond the average of similar subjects, may be attributed to two circumstances—first, the reports of its peculiar excellence as a table grape and its long-keeping properties; and secondly, the somewhat out-of-the-way *locale* of the parent vine, which has prevented many of the best judges of grapes from seeing it. However, it has been seen by many of the best grape-growers in the country, and in these pages their testimony has been given in favor of its general adoption where a long-keeping grape of the finest quality is in any respect a desideratum.

The history of this grape is interesting. The late Mrs. Pince—who, like her much-respected husband, Mr. R. T. Pince, of the Exeter Nurseries, was an enthusiast in horticulture, and well versed in many of its mysteries—was one day eating a bunch of grapes, and observed that one of the berries contained a peculiarly large, round stone. She desired it might be sown. This was done, the vine grew, and in the year 1862 first produced fruit. Mrs. Pince was not then living to witness the evidence of her good judgment and perception in regard to the sowing of the selected seed; but the seedling plant was observed to possess some peculiar properties, and it was named, in remembrance of her, "Mrs. Pince's Muscat," and has now become such a memorial of her virtues as those who hold her name in affectionate remembrance can best desire. On several occasions this variety has come before us for critical examination, and we have had in every case to report in its favor. Yet, in truth, it is but lately that the whole character of the variety has been manifested; its immense fruitfulness and its good keeping could be ascertained only by the test of time, so that, from promising at first to be an admirable grape, it has proved at last to be one of the very best at the command of the cultivator. In the "Garden Oracle" of 1864 we reported on it as "the best grape of the year," having become acquainted with it in the autumn of 1863. In the *Gardener's Magazine* we have several times directed attention to it, and have made public our impressions, derived from seeing the original vine at home, surrounded by abundance of its progeny, the parent commencing its new growth while fruit of the previous year still remained upon the rods.

In growth this variety is peculiar. The young wood is of a purplish hue; the leaves are small, nearly triangular, deeply and elegantly lobed, and of a bluish tinge of green. The bunches are large, long, tapering, well shouldered; the berries oval, as large as those of the Muscat of Alexandria, purplish black with a thin bloom. They are borne on short, rigid, green stalks, with thick warted receptacles, a character which in some part accounts for the length of time the bunches will keep good if left hanging on the vine. The skin is tough, but scarcely thick; and this, again, is in favor of late keeping, for no tender-skinned

grape can be kept long after ripening. The flesh is firm, sweet, exceedingly rich, and of a decided Muscat flavor, changing, however, to a Frontignan flavor after the bunches have been long kept.

One of the special advantages resulting from the distribution of this variety is, that in places where there is much demand for grapes in spring, it will lessen the labors and anxieties of the cultivator, and in some cases render early forcing unnecessary. It is in its prime from the end of January to the end of April; keeping improves it, and the second-class varieties in cultivation, which are valued chiefly for their keeping, will have to yield up their places to it, for it will assuredly supersede them. Mr. Meredith, of Garston, who knows as well as most people the commercial value of a first-class spring grape, to be obtained in abundance without forcing, has lately built a house expressly for this variety, and in almost every good garden in the country young canes will be planted during the present autumn.

Now that Mrs. Pince's Muscat is in course of distribution, we must cease to regard it as in course of probation. Its character is established, its fame secured, and we confess a feeling of peculiar satisfaction in having been enabled to assist in giving publicity to the merits of so valuable an acquisition.—*Gardener's Magazine.*

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Pot Culture of the Gladiolus.—The season has arrived when the most of us are beginning to think of selecting our bulbs, especially for growing in pots. Liliums, hyacinths, tulips, etc., have each their place assigned for the above purpose; but very few make choice of the Gladioli for pot culture, considering that they succeed best when grown in beds or borders, and certainly their effect when so grouped and in flower is strikingly grand; but let me advise those gardeners who have to maintain a succession of bloom in the conservatory throughout the year, now they are ordering their bulbs, to procure some roots of Gladiolus for growing in pots. If they have not previously adopted the practice, they should now select them for flowering during next summer; and, if they succeed, I am certain after that they will be only too anxious to extend their culture in the future.

Having, in the early part of this year, a surplus stock of Gladiolus Brenchleyensis, floribundus, and one or two other varieties, for which I had no room in the borders, the thought occurred to me that I would see what they would do in pots. The roots of Brenchleyensis were very large and fine. Of this variety I planted three in an eleven-inch size pot. The soil which I used was good stiff yellow loam, mixing with it about a fourth of decayed manure. In planting them I did not cover the crown of the root with more than an inch in depth of soil; but I potted them very firm, taking care to press the soil well round the bulb. After this they were placed in a cold pit; and as soon as they had grown somewhat, and the weather would permit, they were removed to a spot out of doors, and abundance of water given them as they needed it. The great object of the cultivator should be never to let them suffer for lack of moisture to their roots, otherwise the foliage will become brown and unsightly. Thus treated, my bulbs have sent up splendid spikes of flowers, and the effect has been gorgeous, the color of Brenchleyensis being a rich vermilion scarlet, contrasting finely with the soft but delicate white and rose color of Floribundus, another beautiful variety. Pot Gladioli are the more useful, because they come in when the showy pelargoniums and other early summer subjects are ceasing to attract admiration.—John F. McElroy, *in Gardener's Magazine.*

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Cuttings of geraniums, verbenas, etc., that were made some time since and placed in a cold frame, should now be potted off, brought into the house, and placed in a cool, shady place for a time before giving them a position for growth.

FALL OR AUTUMN FRUITING RASPBERRY.—I NOTICE a short article under the above heading in the October number of the HORTICULTURIST, page 313, in which you say: "We have been not a little surprised at the statements made by some of the Western growers of the value of the Autumn-bearing Raspberry." As I am one who has been active in disseminating these sorts, and believe in their great value, you will, perhaps, allow me to take exceptions to your article *in part*. While I agree with you that their culture is not essential in *your* locality—or, rather, in *those* localities where peaches are a *certain* crop, or can be had at low rates, and by those parties who *have* pear-trees in *fruiting*, I must strongly dissent from that article as applied to *all* localities and *all* persons, and take the ground that they *are* a *very* desirable fruit in those portions of the country not blessed with peaches or pears. You are undoubtedly aware that no peaches can be raised over *nine tenths* of the Northwest, New York, and the New England States;—in fact, over a large share of this country named, a *bearing peach-tree* is a *real curiosity*, and in many parts a *live* peach-tree is unknown. In our grounds, at this place, we have had but *one* crop of peaches in *ten* years, and there has been but one season that they could be had for less than $2 50 per box—small boxes at that—which puts them entirely out of the reach of a very large class of consumers. And as to pears, it is well known that the new beginner must wait for years before he can get a crop from his Standards, providing they succeed in his locality or on his soil. I speak of Standards, for it is an *established fact* that "Dwarfs" do *not* succeed well in most localities here. We have on our grounds over fifty Dwarf and Standard pear trees, eight to ten years old. From the *whole* number we have not obtained, on an average, yearly, *one peck* of fruit. My experience with them is the experience of *nine tenths* of the planters north of this latitude, and as large a share in many localities south of this. Now, can you say that in *such* localities and with *such* persons "they are *out* of season, and *not* desirable," and that you are "surprised" that we should make "statements" as to their "value" with such? I have certainly found them—the "Autumn-bearing" sorts—*very* desirable in my own family, having had my table supplied with the delicious luxury for six weeks, or until the ground "froze up;" and I believe that you would have no objection to enjoy the luxury of a "short cake" made from them, that we have so often luxuriated on, especially when peaches or pears could not be had.

It matters not, you are aware, how cold or severe the winters are, or if the buds are killed to the ground thereby, they yield their autumn crop of fruit, for this fruit is produced on the *new* growth. In fact, we would advise cutting off the *entire top* just as winter sets in, and cover over the crown with coarse litter. By so doing, the crown is protected, the roots are enriched, and the crop certain and fine. In July or August nip off the top of the leading shoots, which will cause them to branch out and yield fully double or triple the fruit.

SOUTH BEND, IND. A. M. PURDY.

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EVERGREEN branches taken from the forest and planted in the ground among the shrubbery and grouped low over the flower-beds, serve to give life and cheerfulness to the grounds, and at the same time are a protection and shade to the plants, bulbs, etc., etc.

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PLOW or dig all ground intended for planting next season, leaving it as light and loose as possible for the action of air and frost. If clay ground, plow or dig it only when comparatively dry—the drier the better; if too wet, it will at once pack down and no benefit arise from the labor. If dry when the work is performed, the action of the winter's frosts will be almost or quite equal to a coat of manure.

GRAPEVINES in cold houses should be freed from their upright position, and pruned, but their winter protection should be deferred as late as possible.

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CLAY SOIL FOR GRAPES.—The *Country Gentleman*, writing of a visit to F. C. Brehm's vineyard, states that "bunches of Delawares were quite green on the sand, but many of them had attained nearly their full color on the clay, while the difference in altitude of soils was not four feet." On the shore of Lake Erie, we are told, the light, sandy soils do not ripen the grape as well as the clays, and that while the Catawbas, Nortons, and other late sorts, ripen rich and fine on the clay, on sand they rarely more than color. The soil exhibited by Hon. Marshall P. Wilder, at the American Pomological Society's meeting in St. Louis, as the best grape soil of the Rhine, was a hard, tough, yellow clay, the like of which may be found in many places along the south shore of Lake Erie, and over the hills of Hermann, Bluffton, and other points in Missouri.

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THE DIANA grape is said to prove one of the very best for cultivation in our Southern States.

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WHAT do you know of the Van Buren Dwarf Peach? Can we grow it, and raise fruit in Wisconsin by protection in winter?

T. D. P.

[Our knowledge of this peach is limited; we have had the trees now two seasons, and still no fruit, though an abundance of blossoms. One of our specimens measures five feet high, and is three years from the bud. At this rate of growth it will hardly be dwarf enough for winter protection. Why not plant some of the well-tested varieties? Train the trees eighteen inches from the ground, and protect by a covering of straw or similar material, as has already been done with success in some of our more northern States. There is a variety called Italian Dwarf, which in our grounds has reached a height of but sixteen inches, with a diameter of eight inches across the branches. The tree three years from the bud has this season produced six peaches of good flavor, the largest measuring two and a quarter inches in diameter. This could be protected very easily.]

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STRAWBERRY—IRON DUKE.—The *Canada Farmer* mentions a strawberry under name of Iron Duke, which claims to be a seedling originating with Thos. Graydon, Esq., of St. Catharines. It is described as being "very prolific in bearing and remarkable for size and flavor, many of the berries measuring seven and a quarter inches in circumference, and weighing one and a quarter ounces."

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STRAWBERRY beds planted this autumn should during this month be lightly mulched with coarse straw, cornstalks, or other litter that will serve to shield them from sun and prevent the ground from freezing and thawing rapidly; but at the same time the mulch should not pack down on the plants to smother them.

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MARTHA.—This grape has received commendation as of superior quality to any white grape. We do not so consider it. As we write, we have Lydia, Rebecca, Cuyahoga, and other white sorts before us, and in tasting, while we concede to Martha more delicacy than Concord, it is not as rich as Lydia, nor as delicate as Allen's Hybrid. The berry, again, is not as large as Lydia, and it is a much more loose and straggling bunch. The skin is decidedly harsh. Were we to describe the bunch, it would be as follows: Bunch, medium; size, irregular, loose, and open. Berries, below medium, or about the size of the largest berries of well-grown Delawares, with moderately long peduncles, round, green, and with a slight bloom. Skin of medium thickness. Flesh, sweet, rather harsh, with some pulp, and each berry containing three to four seeds.

Vineyards should all have the earth plowed up toward the vines late in autumn, leaving a center furrow for the surface drainage.

Herbemont Grape.—This variety of grape, so valuable in Missouri, has ripened this season very perfectly in Professor Kirtland's grounds, near Cleveland, on the south shore of Lake Erie.

At the annual election of the Madison (Wis.) Horticultural Society the following officers were elected: President, Wm. T. Leitch; Vice-Presidents, D. Worthington, T. Brown; Directors, J. T. Stevens, Wm. Hobbins, H. M. Lewis, O. S. Willey, N. J. Moody; Treasurer, Geo. A. Mason; Corresponding Secretary, T. D. Plumb; Recording Secretary, Joseph Hubbins.

Salt as a Manure.—Many of our readers, doubtless, have a small pasture in which they keep a cow and occasionally turn a horse. Many of these pastures have coarse grasses growing in them, while in other places the grass dries up quickly on approach of warm and dry weather. All such pastures will be greatly improved, and often the coarse grasses will entirely disappear, if a harrow is passed freely over back and forth during this month, and salt at the rate of eight to ten bushels to the acre be spread over the ground.

Grapes at the South.—A Florida correspondent of the *Country Gentleman* speaks in high terms of the good success of the Diana, Catawba, and Concord grapes as among the best varieties to grow in that section. He condemns the Delaware as liable to cast its foliage and make little or no growth.

Western New York Nursery Business.—It is estimated that the amount of trees sold and shipped by the railroads in Western New York is over eight thousand tons, exceeding in value one and a half million of dollars annually.

Verbena Beds.—Beds or borders where verbenas have been growing this season, if covered slightly with straw at the close of the season, and left until the spring vegetation is strong, will be found with qualities of young verbena plants, a part of which can be removed, and the rest will grow and supply blooms almost as early as plants taken from the green-house. In this way, while you may not have all superior flowers, yet if the plants this season are of good varieties, the chances are that a large proportion of the seedlings will be good. Portulacca and Annual Phlox beds managed in the same way also supply an abundance of plants free of cost, so that the poorest person who has six feet of flower-bed around his house need never be without flowers in summer to educate and refine the tastes of his children and contribute to his own enjoyment.

The Lydia Grape, Mr Elliott writes us he has examined this season in Professor Kirtland's grounds with even larger bunches and berries and more compact than it has ever been figured. The vine, he says, stands in a piece of ground that has been highly manured, and hence the evidence is that the variety needs a rich soil to bring out its excellence.

The Miles Grape, which our valued friend Charles Downing has spoken of as a fine early sort, one of our correspondents writes us does not color up any earlier than the Hartford, and is not ripe as soon, while the fruit being small and the bunch short, it will not readily sell in market.

Green-houses should be kept as cool as may be consistent with retaining the plants in bloom. Many houses are ruined for the winter by too strong heat in the first of the season.

Chrysanthemums in bloom require abundant food, which is best supplied by watering them with liquid manure.

HARDY PERPETUAL ROSES are benefited by transplanting this fall, even if returned to the same bed. Take them up, prune tops and roots, dig the ground deep, placing a good layer of half-rotted manure or old turfs at bottom, and replant; then cover the surface two or three inches with well-rotted compost or manure.

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A VERY popular apple at the West is Utter's Large Red, in size larger than medium, a constant and prolific bearer, hardy, and quality first-rate; season from November to March. If any of your Eastern pomologists wish to test the variety, I will send cions next winter. T. D. P.

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ROSES for window blooming should be potted in good rich soil, cut back freely, then kept in cool frames for a time before bringing into the room for winter.

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HYACINTHS for winter blooming should now be potted.

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CAMELLIAS require to be syringed occasionally in good weather and the soil top-dressed.

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RASPBERRIES, BLACKBERRIES, DWARF PEARS, and other plants or trees with small surface-roots, should have the earth turned up toward them in the autumn. A light one-horse plow, taking first a shallow furrow and turning it toward the trees, then making the next furrow deeper, and so on deepening as we extend the distance from the tree, we have found a good practice. Where the raspberries have to be covered for the winter, it is requisite to first bend them down and confine them by a spadeful of earth. It is rapidly done, and pays pecuniarily in the crop next season.

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CLEAN up the lawn and roads, paths, etc., this month, raking and gathering the leaves into a heap for use in forming hotbeds next spring. Rake and roll the walks so that they present a neat, firm, and clean appearance.

LILIES and other hardy bulbs should have a good covering spread over the bed of coarse straw manure.

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HARDY SHRUBS may be pruned this month, and especially should all dry or dead branches be pruned out, so as to give a neat, clean appearance during winter. Top-dress with good rotten compost, and dig it in lightly with the spading-fork.

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PITS or FRAMES for winter stowing of plants should be ready. Make them two to three feet deep, and when they are well drained, place the pots in leaf-mold from the woods, give air freely and shade from hot sun; when severe weather sets in, have ready a quantity of straw, old hay, etc., for spreading over the sash.

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LARGE CLUSTER OF GRAPES. — Mr. Fowler, gardener to the Earl of Stair, Castle Kennedy, produced at a recent show in Glasgow, the most extraordinary bunch of grapes, for size and weight, that has been exhibited in modern times. It all but rivaled the famous bunch of Speechly at Welbeck. It weighed 17 lbs. 2½ ozs., and was of the White Nice variety. The same grower had enormous Black Alicante, with berries the size of Victoria Hamburgh, and bunches compact and pyramidal to a fault. Trebbiano, too, was the largest and best formed bunch of the kind probably ever exhibited. Mr. Fowler also produced a bunch of the Duchess of Buccleuch variety, much larger both in cluster and berry than any of this variety before exhibited. The size of bunch which Mr. Fowler induces in all the sorts under his cultural care is something wonderful, and if he does not at all times show them quite up to the finishing stroke in point of color, it need not be wondered at.—*Florist.*

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GRAFTING.—Dr. Regel describes a new method of grafting, as practiced by Herr Freundlich, one of the Russian court gardeners, with remarkable success. In-

stead of taking the cions from the previous year's wood, with the bud just beginning to swell, the still soft growing lateral shoots are selected when from half to 1½ inch long, and either bark or tongue-grafted, care being taken not to draw the ligature too tight, as they swell much more rapidly than hardwood cions. Success, he says, is certain, if care be taken that the sap of the stock is in motion at the time the operation is performed. He recommends this mode as superior to all others, especially for hard-wooded trees, such as quercus, fagus, etc., which are usually difficult to propagate from the old wood. New roses and other plants, which it is desirable to increase as rapidly as possible may also be advantageously worked in the same manner.—*Florist and Pomologist.*

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CELERY for winter use should be stored in trenches made the exact depth of the plant, and ten to twelve inches wide. Take up the plants on dry days only, and pack closely in the trenches. On the approach of severe frosts, cover with two or three inches of straw litter, increasing the quantity as the weather grows colder, until the covering is at least one foot in thickness.

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FERN CREEK, JEFFERSON CO., KY., *Oct*, 22, '67.

F. W. WOODWARD—*Sir:* Please find inclosed two dollars and fifty cents, the price of my subscription to the HORTICULTURIST for this year. The particular excellency of the number for October I regard as well worth the price of the year's subscription.

Respectfully, HENRY F. VAIL.

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HEXAMER'S PRONGED HOE.—We have used this implement, and consider it one of the most valuable garden tools in our possession. For working among strawberry plants, root crops, or any vegetables planted in rows, it will do double the work of any other hand implement within our knowledge, besides stirring the ground to a depth of some four inches in a thorough manner, and with ease to the operator.

## CATALOGUES RECEIVED.

VILMORIN, ANDRIEUX & Co., Paris, France. Bulbs, etc.

B. K. Bliss & Co., Springfield, Mass. Autumn Catalogue and Floral Guide.

W. F. Bassett, Hammonton, N. J. Small Fruits, etc.

Charles Brinkerhoff, Fishkill Landing, N. Y. Wholesale Catalogue of Nursery Stock.

M. O. Keefe & Son, Rochester, N. Y. Dutch Bulbs and Flower Roots.

C. L. Hoag & Co., Lockport, N. Y. Catalogue of Grape Nurseries.

D. H. Brown, New Brunswick, N. J. Strawberries, Raspberries, and Blackberries.

H. A. Dreer, Philadelphia. Circular describing the Philadelphia Strawberry.

G. W. Campbell, Delaware, Ohio. Hardy Native Grapevines, etc.

J. F. Deliot, Sing Sing, N. Y. Grapevines.

J. H. Babcock & Co., Lockport, N. Y. Hardy Grapevines.

E. Y. Teas, Richmond, Ind. Nursery Stock.

Henderson & Fleming, 67 Nassau Street, New York. Dutch Bulbous Roots.

R. Halliday & Son, Baltimore, Md. Camellias, Azaleas, Roses, etc.

C. E. & J. S. Fritts, Elwood, N. J. Small Fruit Nurseries.

M. H. Lewis & Co., Sandusky, Ohio. Native Grapevines.

Mahlon Moon, Morrisville, Pa. Trees, Plants, etc.

W. S. Little, Rochester, N. Y. Nursery Stock.

J. H. Foster, Jr., White Horse P. O., N. J. Manual of Grape and Small Fruit Culture.

Gould, Beckwirth & Co., Rochester, N. Y. Fruit and Ornamental Trees.

P. J. Berkmans, Augusta, Ga. Fruit and Ornamental Trees.

Frost & Co., Rochester, N. Y. Fruits.

D. D. Buchanan, Elizabeth, N. J. Fruit and Ornamental Trees.